the bit stream. Priority code words are code words which are psychoacoustically important. What this means is that the spectral values which are coded by so-called priority code words contribute substantially to the auditory sensation of a decoded audio signal. If the audio signal has a high speech content, the priority code words could be those code words which represent lower spectral values, since in this case the important spectral information is located in the low region of the spectrum. If an audio signal has a group of tones in the middle region of the spectrum the priority code words could be those code words which are assigned to the spectral values in the corresponding middle section of the frequency range, since these are then the psychoacoustically important spectral values. Psychoacoustically important spectral values might also be spectral values whose magnitude, i.e. signal energy, is large compared with that of other spectral values in the spectrum. Code words of less psychoacoustic importance, which are also called non-priority code words, on the other hand, fill up the raster. They are not therefore aligned with the raster points but are "slotted into" the remaining free spaces once the priority code words have been positioned on the raster points.

According to the first aspect of the present invention, therefore, the priority code words, which are assigned to spectral values which are psychoacoustically important, are so arranged in a raster that the start of the priority code words coincides with the raster points.

According to a second aspect of the present invention the spectral values are grouped into spectral sections, a different code table being assigned to each of these spectral sections. The assignment of a code table to a spectral section is made according to signal statistical considerations, i.e. which code table is best suited for the coding of a spectral

section. The assignment of a code table to a spectral section is already known in this branch of technology.

A raster will now be employed which consists of several groups of equidistant raster points such that the distance between the raster points of a group of raster points depends on the code table used for coding a spectral section. In another spectral section another code table is used so as to obtain an optimal data reduction. This other code table has a different group of equidistant raster points assigned to it, the distance between two raster points of this other group of raster points depending on the associated code table. The distance between two raster points in the different groups of raster points can be determined in at least three ways.

In the first the maximum length of a code word of a code table is ascertained. The separation of two raster points in the raster point group which is assigned to this code table can now be chosen to be equal to or greater than the maximum code word length in the code table, so that there is room in the raster for even the longest code word of this code table. The separation of two raster points of a different group of raster points, which are associated with a different code table, is determined in an analogous way according to the maximum code word length of this other code table.

The second alternative, which will now be described, can also contribute to an increase in the number of raster points. Because of the inherent properties of the Huffman code, less frequently occurring code words tend to be longer than more frequently occurring code words. When the raster point separation is chosen to be equal to or greater than the length of the code word of maximum length in a table, therefore, the code words inserted in the raster are usually shorter than the raster point separation. The raster point separation can thus

also be chosen to be smaller than the length of the longest code word of a table. If a code word which doesn't fit into the raster then appears when coding, the remainder which fails to fit into the raster is inserted into the bit stream at some other suitable position which is not aligned with the raster. As a consequence, this "cut-up" code word is no longer effectively protected against error propagation. Since this occurs very rarely, however, it can be accepted in the interests of an increase in the number of raster points.

The third possibility of determining the different raster point separations is to consider not the maximum code word length of a table but the length of the longest code word in a bit stream which actually occurs in a coded spectral section.

According to a third aspect of the present invention, instead of a code word arrangement in the bit stream which essentially increases linearly with the frequency, an arrangement in which the code words are distributed over the frequency spectrum can be used, a method which is also known as "scrambling". This has the advantage that so-called "burst errors" do not lead to erroneous decoding of a complete frequency band but simply to small disturbances in several different frequency ranges.

According to a fourth aspect of the present invention, instead of a code word arrangement which increases linearly with the frequency an arrangement can also be used in which e.g. only each n-th (e.g. each second, or third or fourth, ...) code word is arranged in the raster. In this way it is possible to span the greatest possible spectral region using priority code words, i.e. to protect against error propagation, when the number of possible raster points is less than the number of priority code words.